

emotion of sauna.



Installation and Operating Guide

38.AS



MADE IN GERMANY

GB



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Dear customer:

You have purchased a high-quality sauna heater that will give you years of sauna bathing pleasure. This sauna heating unit has been designed in conformity with the latest European safety standards, tested and manufactured at our production facility in accordance with quality standard EN DIN ISO 9001.

This detailed Installation and Operating Guide has been prepared for your information. Please give special attention to the Special Instructions and information regarding electrical connections and wiring.

We wish you many hours of pleasant, stimulating sauna bathing.

Prior to installation, please check to ensure that the sauna heating unit has been delivered to you in proper condition. Damage incurred in transport should be reported immediately to the shipping agent or the supplier who arranged delivery to you.

The delivery package includes the following components:

- 1 sauna heater
- 1 accessory bag, including:
 - 1 cable connector assembly PG 16
 - 3 sheet metal screws B 4.2 x 9.5
 - 4 tension-plate screws
- 1 set of sauna stones, packed separately in a fabric bag

General instructions

Please note that optimum sauna climate conditions can be achieved only if the cabin ventilation (fresh air and exhaust) system, the sauna heater and the control unit are designed and set to work efficiently in combination.

Please observe the instructions and information provided by your sauna supplier.

Sauna heating units heat your sauna cabin with warmed convection air. Fresh air drawn by suction pressure through the fresh-air inlet is heated, rises upward (convection) and is then circulated within the cabin. Some of the consumed air is forced out of the cabin through the exhaust outlet. This process produces a typical sauna climate, with temperatures of approximately 110° C immediately below the ceiling and a temperature gradient that produces low temperatures of approximately 30-40° C at floor level. Thus it is not unusual for the temperature sensor above the heater to register 110° C, while the thermometer mounted on the sauna wall approximately 20-25 cm below the cabin ceiling shows only 85° C. Ordinarily, sauna temperatures range between 80° C and 90° C at the level of the upper recliner bench at the maximum temperature setting.

Please remember that temperatures are always at their highest just above the sauna heating unit and ensure that temperature sensors and safety limiters are mounted there.

When the unit is heated up for the first time, evaporation of residual substances from the production process may cause slight odors. The cabin should be aired out thoroughly before you begin your sauna bath.

This device has not been designed for being used by persons (including children) that are physically or mentally handicapped or have sensory disabilities. Moreover, it is not allowed to use this device without sufficient experience and/or knowledge, unless these persons will be supervised by persons responsible for their security or in case they have been instructed how to use this device.

Children are to be supervised in order to make sure that they do not play with this device.

Special Instructions

Improper installation can create fire hazards! Please read the installation guide carefully and completely. Strict attention should be paid to dimensional data and to the following special instructions.

● **The sauna heating unit is designed for operation with an input voltage of 400 V AC 3N through the sauna control unit.**

- Installation and electrical connection of the sauna heating units, the control unit and other electrical components must be performed by a qualified electrician. The special safety requirements specified in VDE 0110 v. § 49 DA/6 and VDE 0100, Part 703/2006-2 must be observed during electrical installation.
- The sauna heating and control units may be used only in sauna cabins constructed of suitable, resin-free, untreated material (e.g. Nordic spruce).
- The sauna cabin must have a minimum inside height of 1.90 m.
- Only one sauna heater providing the required heating output may be installed in the sauna cabin (see Table 2).
- Every sauna cabin must have a fresh-air inlet and an exhaust outlet. All ventilation inlets/outlets must be positioned behind the sauna heating unit and approx. 5-10 cm above the floor. Minimum inlet/outlet dimensions are listed in Table 1.
- The exhaust outlet must be positioned in the lower section of the rear wall of the sauna cabin, diagonally opposite the sauna heating unit. Fresh-air inlets and exhaust outlets must not be closed. Please observe the instructions provided by your sauna cabin supplier.
- **Caution: Covered or improperly filled stone grates can cause fire hazards.**
- Please ensure that no objects have been left lying on the sauna heating unit prior to each operation

Power input in kW	Minimum dimensions of fresh-air inlets and exhaust outlets in cm
4,5	35 x 3
6,0	35 x 4
7,5	35 x 5
9,0	35 x 6

Table 1

● **Caution: Due to the high temperatures generated during operation of the sauna heating unit, direct contact with the unit can cause burns.**

- The sauna heating unit is not designed for installation/use in a niche, beneath the reclining bench or beneath an inclined ceiling.
- The sauna heating unit must not be operated when the fresh-air inlet is closed.
- **Cabin lighting and lighting installation components must be splash-resistant and suitable for operation at environmental temperatures of up to 140°C. Therefore, only VDE-tested sauna lighting systems (max. 40 Watt) may be used in connection with the sauna heating unit.2.**
- The complete sauna system (sauna heating unit, control unit, lighting system, etc.) may be connected to the main power system by a locally certified electrician only. All electrical wiring installed inside the cabin must be suitable for use at environmental temperatures of up to 140° C. Silicone cables are recommended. If single filament cables are used, they must be protected with flexible metal tubing. Minimum diameters for connection cables and suitable cabin sizes for specific heating output values in kW are listed in Table 2.
- During installation of the sauna heating unit, it is important to ensure that the vertical distance between the upper surface of the sauna heating unit and the sauna cabin ceiling is not less than 90 cm. The required horizontal (lateral) distance between the sauna heating unit and the cabin wall is shown in the dimensional diagram for the each specific sauna heating unit. The distance between the lower surface of the sauna heating unit and the floor is also indicated in the dimensional diagram. This distance is equivalent to the height of the base for floor-mounted heaters. In all cases, it must be ensured that the sauna heating unit is not placed on a floor comprised of easily flammable material (wood, plastic floor coverings, etc.). Ceramic tiles are recommended for sauna floors.
- The required distance between the heater safety grate, the recliner bench or other flammable materials to the sauna heating unit is indicated in the dimensional diagram for each specific sauna heating unit. The height of the heater safety grate must be approximately equal to the front height of the sauna heating unit.

Power input in kW	Suitable for cabin size in m3	Minimum diameters in mm2 (copper lead) for connection to 380-400 V AC 3N		
		Power line from power grid to control unit	Heater connection cable from control unit to heater	Fuses (in A)
4,5	ca. 4 - 6	5 x 2,5	5 x 1,5	3 x 16
6,0	ca. 6 - 10	5 x 2,5	5 x 1,5	3 x 16
7,5	ca. 8 - 12	5 x 2,5	5 x 1,5	3 x 16
9,0	ca. 10 - 14	5 x 2,5	5 x 1,5	3 x 16
12,0	ca. 14 - 18	5 x 4	5 x 1,5 (2 Stück)	3 x 25

Table 2

Installation of the 38 AS wall-mounted heater

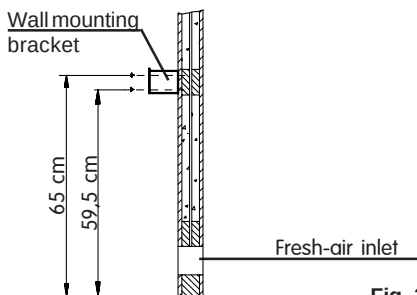


Fig. 3

Minimum distances

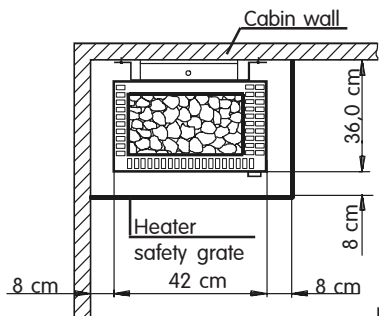


Fig. 2

1. Fasten the wall mounting bracket to the cabin wall as shown in Figs. 3 + 4, centered above the fresh-air inlet, using the enclosed tension plate screws.

2. Connect the power cable as shown in the circuit diagram. A circuit diagram is provided on the inside of the terminal box cover.
3. Close the terminal box with the cover, spacer toward the outside, using 2 sheet metal screws.

4. Mount the sauna heating unit to the wall mounting bracket by the mounting slots and insert the spacer (Fig. 7).

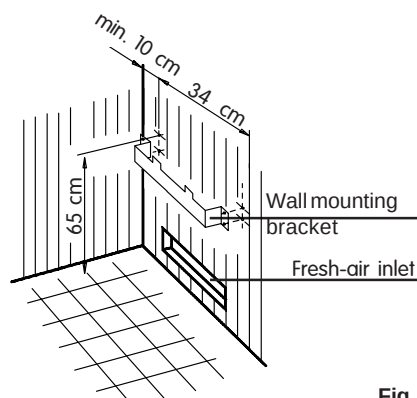


Fig. 4

- Secure the sauna heating unit to the wall mounting bracket by inserting a sheet metal screw through the hole positioned at the rear edge of the heater (Fig. 5 and 6).

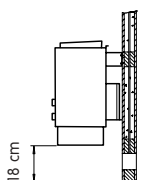


Fig. 5



Fig. 6

Sensor installation

The built-in control unit is equipped with a thermostat and an a temperature limiter. The capillary tube sensors are delivered with the heater unit (packed in the lower section of the heater). The sensor must be removed carefully from the heater and fixed in position in the mounting holes on the sensor mounting bracket. The capillary tubes must not be bent or damaged. The smallest bending radius should not be less than 4-5 cm during and after installation.

The sensor mounting bracket is mounted (using the provided wood screws) to the cabin wall as shown in Fig. 7, centered above the heater exhaust outlet facing the cabin door and positioned 25 cm below the cabin ceiling. The bracket must be placed in this position, as otherwise the desired temperatures cannot be achieved. The capillary tubes can be fastened to the cabin wall with the fastening elements provided. The excess length of capillary tube should be rolled up behind the heater and must not be pushed back into the connection box under any circumstances.

If the installed capillary tubes do not have an insulating mantle, they must be protected against contact. This can be accomplished by running the tubes through the grooves in the wall paneling and covering them with appropriate wood molding.

Please remember that the sensor lines are thin, flexible tubes that must not be squeezed or subjected to pressure.

These lines must never be cut, as this will destroy the components.

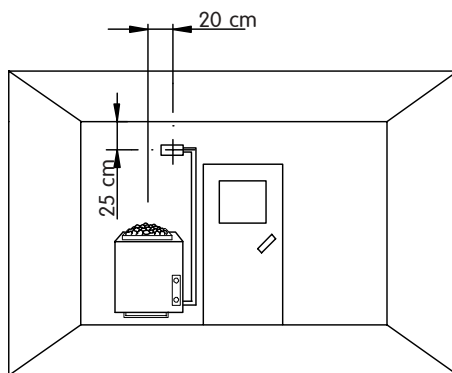


Fig. 7

Installation by a qualified electrician

- 1.) Drill a hole measuring approx. 10 cm in diameter in the cabin wall at the point where the main power cable is to be inserted. Run the cable through the hole toward the outside of the sauna cabin and connect it to the main power line in a distributor box suitable for use in moist environments.

This operation must be performed in accordance with the wiring diagram (Fig. 1), the circuit diagram on the control panel and the regulations of the local EVU and the VDE.

Caution! The local site installation must provide for sufficient fuse capacity and an emergency power cut-off switch.

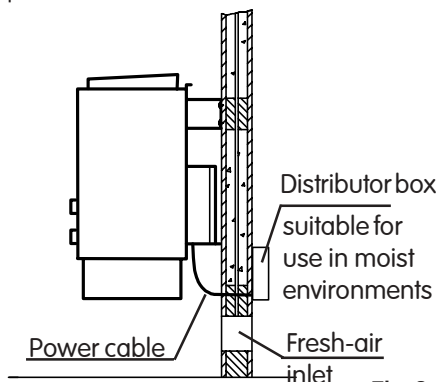


Fig. 8

Commissioning/Initial operation

Heater operation is initiated with the timer unit. You may select a heating period of up to 4 hours. The timer runs for the selected time period and then automatically shuts the heater off.

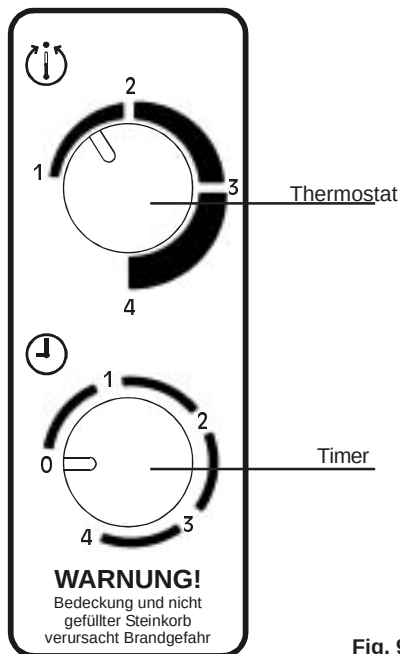


Fig. 9

The sauna must heat up for approximately 45 minutes to achieve a typical sauna climate.

The thermostat enables you to select the temperature you desire within a range of approx. 40° C to 110° C. Please remember, however, that the sensors register only the temperatures in their immediate vicinity. Therefore, temperatures may differ in other parts of the cabin. These differences are typical for sauna climates, however.

The sauna heater is activated through a clock timer with synchronous motor.

In consequence of the power frequency (50 Hz) the synchronous motor is making some noise. This is not a fault or insufficiency of the heater !

Sauna stones

Sauna stones are natural materials. Check your sauna stones at regular intervals, since they are susceptible to the effects of strong steam-water additives and may decompose over a long period of time. Consult your sauna supplier if you have any questions.

The sauna stones delivered with your sauna heating system should be washed thoroughly in running water and placed in the stone grate in such a way that the convection-air can flow freely between the stones (Fig. 10 + 11).

The quantity of sauna stones is sufficient to vaporize approx. 10 cl of water per cubic meter of cabin space. Wait for about 10 minutes after each pouring before adding water again. This allows the stones to heat up sufficiently.

Never add more additives or ethereal oils to the steam water than is indicated on the containers. Never use alcohol or undiluted concentrates. Caution! Fire hazard.

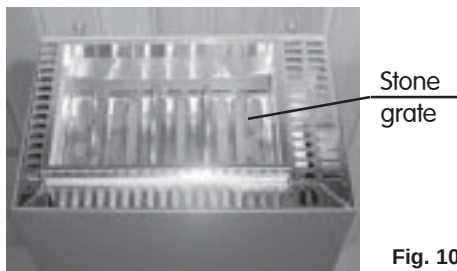


Fig. 10

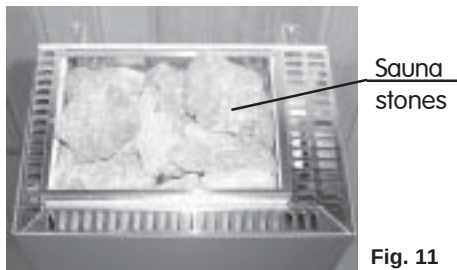


Fig. 11

URGENT WARNING!

Stones must not be piled in layers in the stone grate on the sauna heater but instead placed in a loose arrangement in order to ensure that rising hot air can flow freely between the stones.

Safety cutoff

The sauna heater is equipped with a temperature limiter for security.

In case of a malfunction this temperature limiter cuts off all 3 phases by safety reasons.

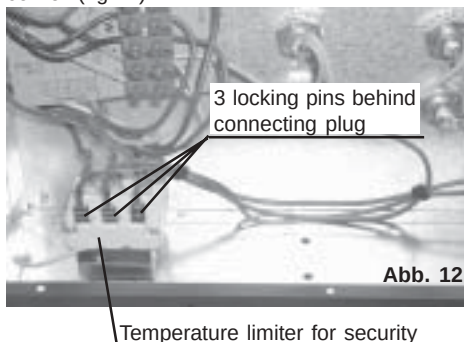
Once the temperature limiter has cut off the current, he must be reset mechanically.

Attention:

Cut off the sauna heater from the mains at first.

Loosen the security screw from the wall holder of the heater and take the heater off the holder.

Then open the lid of the terminal box. The temperature limiter is mounted in the left lower corner (fig.12).



Press the 3 locking pins of the connecting plug back to the rear side of the housing until you feel a switching point.

Close the terminal box again and restore the sauna heater in the wall holder.

Secure the heater with the security screw.

In case the temperature limiter should cut off again immediately after taking into operation, the sauna heater has to be checked by a specialist.

Technical data

Voltage: 400 V AC 3N, 50 Hz

Power intake: 6.0, 7.5, kW, depending upon model

Height: 730 mm when mounted 180 mm above floor level

Width: 420 mm, depth: 360 mm

Stone capacity: 15 kg

Discharge current: max. 0.75 mA per kW of heating output

Sauna heater for family saunas

Instructions Leakage current

For the installation of sauna heaters, please pay attention to the DIN VDE 0100 part 703 !

This standard makes the following statement valid in your newest expenditure, since February 2006, paragraph 703.412.05;

Quotation:

The additional must be planned for all electric circuits of the Sauna by one or more fault current protection device (RCDs) with a calculation difference stream not more largely than 30 mA, excluded of it is Saunaheating.

The EN 60335-1 DIN VDE 0700 part 1 of January 2001 states the following in paragraph 13; quote:

The leakage current may not exceed the following values during operation:

- for stationary heaters of protection class I 0,75 mA; or 0,75 mA each kW input of the appliance, depending on the higher value, at a maximum value of 5 mA.

If the appliance is equipped with a protective device for leakage current (ELCB), please pay attention to the fact that no other electrical units will be protected by this ELCB.

Under current manufacturing methods, it is not yet possible to produce tubular heating elements for sauna heaters which do not attract moisture on each end from the surrounding air.

Therefore, should the ELCB be triggered during start-up, the electrical installation must be checked.

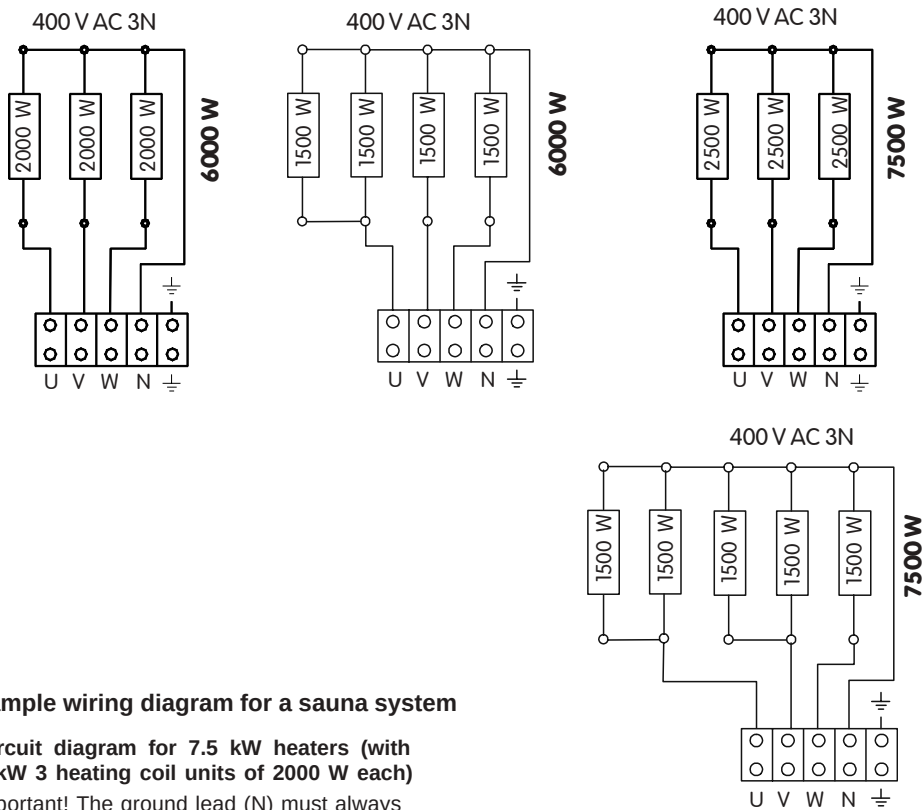
It is also possible that moisture from the surrounding air has been concentrated in the magnesium-oxide filling in the heating elements during transport or storage and is now causing the ELCB to be triggered.

In this case, the oven must be heated up under supervision of an expert, during which the PE conductor is not connected. After about 10 minutes, when moisture has evaporated from the heating elements, the oven must be reconnected to the PE conductor!

If the sauna heater is not in use for a significant period of time, we recommend running it every 6 weeks, so as to avoid moisture concentrating in the heating elements.

Installation of the sauna heater and control unit may be undertaken only by an authorized electrician. Without documentation of such installation, a warranty is fundamentally invalid.

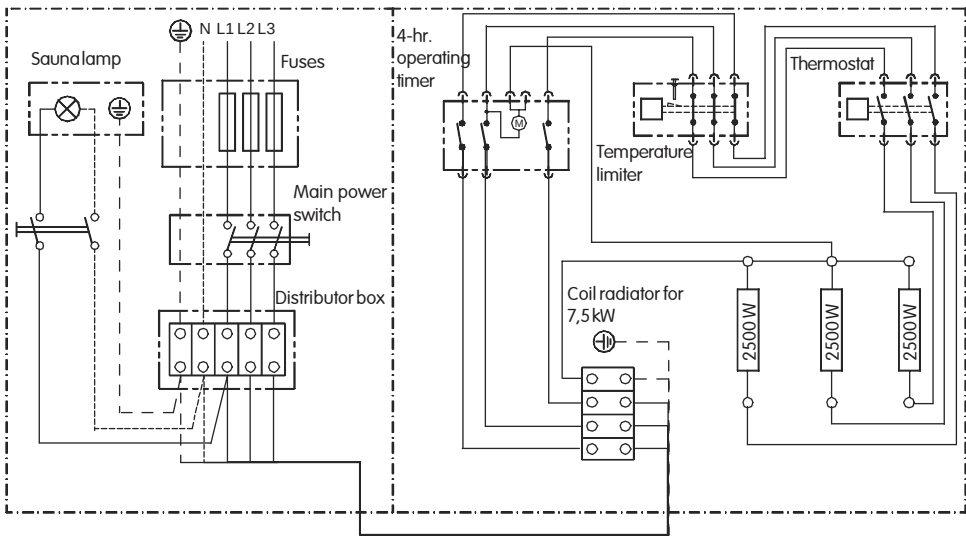
Circuit diagrams for sauna heaters



Sample wiring diagram for a sauna system

Circuit diagram for 7.5 kW heaters (with 7 kW 3 heating coil units of 2000 W each)

Important! The ground lead (N) must always be connected.



Care and maintenance

All sauna heating units are made of corrosion-resistant material. However, to ensure that you get maximum enjoyment from your sauna system for as long as possible, the unit should be cleaned and maintained on a regular basis. All openings and baffle plates must be free of obstruction at all times. These areas are susceptible to deposits of dust and fluff drawn into the unit with fresh air. This impairs the air-convection process in the sauna heating unit and can lead to overheating.

Clean the equipment as needed. If defects or signs of wear and tear are detected, consult your sauna supplier or the manufacturer.

If you do not use your sauna for an extended period of time, ensure before resuming sauna operation that no cloths, cleaning agents or other objects have been left on the sauna heating unit or the vaporizer.

Use only original replacement parts, which can be ordered from your supplier or directly from the manufacturer.

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Guarantee

The guarantee is taken over according to the legal regulations at present.

Manufacturer's warranty

- The period of warranty starts from the date of purchase and lasts up to 2 years for commercial use and 3 years for private use.
- Always include the completed warranty certificate when returning equipment.
- The warranty expires for appliances which have been modified without manufacturer's explicit agreement.
- Damages caused by incorrect operation or handling through non-authorized persons are not covered under the terms of warranty.
- In the event of a claim, please indicate the serial number as well as the article code number and type name with expressive description of the fault.
- This warranty covers damaged parts but no defects due to wear and tear.

In case of complaint please return the equipment in its original packaging or other suitable packaging (caution: danger of transport damage) to our service department. Always include the completed warranty certificate when returning equipment.

Possible shipping costs arising from the transport to and from point of repair cannot be borne by us.

Outside of Germany please contact your specialist dealer in case of warranty claims. Direct warranty processing with our service department is in this case not possible.

Equipment start-up date:

Stamp and signature of the authorized electrician: